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DIAGNOSTIC ACCURACY OF BASAL STENOSIS RESISTANCE INDEX FOR MYOCARDIAL ISCHEMIA IDENTIFIED BY FRACTIONAL FLOW RESERVE AND IMPLICATIONS OF STENOSIS RESISTANCE INDEX DETERMINED AT SUB-MAXIMALLY ELEVATED CORONARY FLOW RATES

Moderated Poster Contributions
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Background: Basal stenosis resistance index (BSR) is a novel adenosine-free index with a diagnostic accuracy for myocardial ischemia on perfusion scintigraphy mirroring fractional flow reserve (FFR). However, its diagnostic accuracy for myocardial ischemia identified by FFR is unknown, and the diagnostic accuracy of BSR was found to increase from basal to maximal vasodilation, indicating flow-dependency of stenosis resistance (SR) accuracy. We evaluated agreement of BSR with FFR, and the effect of sub-maximally increased coronary flow on the accuracy of SR.

Methods: 220 patients, including 284 coronary lesions underwent intracoronary pressure and flow measurement to evaluate stenosis severity. Receiver operating characteristic curves (ROC) were used to evaluate BSR discriminative value for myocardial ischemia by FFR<0.75, as well as that of SR at 25%, 50%, 75% and 100% of maximal flow velocity. Discriminative value was compared by comparing the area under the curve (AUC).

Results: BSR had a high discriminative value for FFR<0.75(AUC: 0.87). After adjustment for intrinsic FFR variability, agreement between BSR and FFR was 93%. Moreover, SR yielded significant incremental discriminative value for FFR-identified myocardial ischemia with increasing proportion of maximal flow velocity (Table).

Conclusion: BSR shows excellent agreement with FFR. Moreover, SR determined at increased flow significantly improves its discriminative value.

	Ischemia by FFR<0.75				
Parameter	AUROC		95% Confidence Interval		
BSR	0.87		0.82	-	0.91
SR25	0.90*		0.86	-	0.93
SR50	0.92*		0.88	-	0.95
SR75	0.93*		0.90	-	0.96
HSR	0.94		0.91	-	0.97

* P≤0.001 compared with preceding parameter